fibromatose, an affection congenital and familial, as the patient said (and there is no reason to suspect her veracity, for she has never varied on this point in spite of her state of dementia), and of peri-encephalitis, a malady held as the most accidental of psychopathies, and considered generally as developing ordinarily otherwise than from predisposition and in individuals with brain primitively well constituted. Or, if fibromatose is the index of a *congenital feebleness of the nervous system,* following the exact expression of the authors, this case should be added to those already numerous, where we see general paralysis attack the predisposed, the degenerate, even also imbeciles. In 1888, L. F. Arnaud published two cases of general paralysis in imbeciles, recalled two analogous observations, one of Morel; the other of Christian, and attributed the congenital cerebral feebleness of the patients to the alcoholism of parents. In 1893, my interne, Gagnerot, in his thesis, entitled, "Of Predisposition in General Paralysis," gave some examples of paralysis, grown upon the soil of degeneracy. In 1897, L. Chappelletti published an article upon general paralysis in imbeciles. In 1898, I myself, in the *Annales Medico psycho-logiques,* gave observation of the same kind and advanced the opinion that "almost all general paralytics of the rural class are weaklings." "The observations which I have collected since are not of a nature to make me change my opinion.

RICHARDS (Amityville).

NEUROLOGISCHES CENTRALBLATT

(Vol. 22, 1903, No. 5, March 1.)

1. The Acromial Reflex. W. v. BECHTEREW.
2. The Carpo-metacarpal Reflex. W. v. BECHTEREW.
3. New Contribution to the Physiology of the Tendon Reflexes. Preliminary Contribution. A. E. STCHERBAK.
4. Vesical Incontinence and Paralytic Manifestations in the Extremities in Focal Softening in the Subcortical Ganglion. A. HOMBERGER.
5. Further Contributions upon the Developmental (Myelogenetic) Regions in the Human Cerebral Cortex. P. FLECHSIG.

1. *Acromial Reflex.*—Bechterew calls attention to a periosteal reflex obtained by striking with the percussion hammer, the acromial portion of the scapula and the coracoid process. This reflex consists ordinarily in a flexion of the forearm, sometimes in an inward rotation of the hand and in exaggerated cases in a flexion of the fingers. These movements are produced by a contraction of the cervico-brachialis and biceps muscles. The reflex is obtained in any condition where there is a heightening of the reflexes as in organic hemiplegias and in amyotrophic lateral sclerosis.

2. *Carpo-metacarpal Reflex.*—Bechterew describes a periostal reflex obtained by striking the carpus and the adjoining metacarpal region resulting in a flexion of the fingers with the exertion of the thumb. The patient's hand should be held with the dorsum upwards. It is obtained in organic lesions situated above the cervical swelling, especially in organic hemiparesis or hemiplegia, as of cortical or capsular origin.

3. *Physiology of Tendon Reflexes.*—Stcherbak records some interesting experiments upon animals. By means of a tuning fork rapid vibrations to the hind leg of rabbits were applied, which resulted in a heightening of the knee reflex, knee clonus, which could be produced by tapping, and passive movement of the knee joint and spastic tremor. These phenomena could be produced by irritation of the other foot. Rapid passive movement 1000 to 1500, also produces a similar condition. Cutting the spinal cord above the center for the knee reflex and applying rapid vibration produced a heightening of the knee reflex, but no clonus or spastic tremor. These vibrations had no influence upon the animal's general condition or muscle

tone. Vibrations applied to the spine, especially the lower dorsal region, produced a spasticity of all the muscles of both hind extremities. Stcherbak concludes as a result of these experiments that by means of vibration we can so influence the lower, somatic portion of the nervous system, that phenomena are produced which we usually ascribe to the higher or psychical apparatus, and that these phenomena may be latent for some time afterwards.

4. *Subcortical Ganglion.*—Homberger describes the symptoms of ten cases in which numerous minute areas of softening were found in the corpus striatum and thalamus. In six of the cases the lesions were bilateral. Incontinence of urine was present in all the cases. Micturition was of the automatic type. There was partial paresis of the lower extremities, and increase of the reflex. The upper extremities were also somewhat affected. Forced laughing and crying and occasional hemichorea and hemiathetosis were present. Homberger concludes the following as the result of lesions in the corpus striatum and optic thalamus: (1) Unilateral lesions cause transient incontinence and a permanent increased desire for urination; (2) bilateral lesions cause permanent incontinence of urine, which does not differ from the spinal form; (3) the subcortical innervation of the bladder is bilateral; (4) superficial lesions do not cause incontinence; (5) bilateral areas of softening in the basal ganglia cause disturbance of station and paralysis which differ from those cases where the lesions involve the cortical fibers of the internal capsule.

5. *The Developmental Areas of the Cortex.*—Flechsig gives the result of his study of six more brains with regard to the date of the appearance of medullary sheaths in the various tracts of fibers proceeding from or to the cortex. This makes a total of 52 brains which he has examined. He modifies slightly his previous statements: (1) Flechsig divides the cortex into 36 regions. He adds a new area to the first parietal convolution, making three areas. This region is found near the intraparietal nucleus and resembles the subangular convolution in size, the arrangement of its fibers and the date of appearance of the myelin sheaths. He is not certain that fibers from the corona radiata enter this region. A new area is distinguished in the upper portion of the occipital convolution, making three areas in the sight region; (2) regarding the order of development the following is of importance. The motor convolutions show the most marked development in the more fully developed fetuses. In a brain of a 34 c.m. long fetus he found a well developed bundle of fibers which were traced to the olfactory sphere, while the fibers of the cerebral convolutions were not differentiated. Unless this is an exceptional case, the olfactory sphere should be designated No. I, and the central convolution as No. II; (3) it is possible to distinguish between the motor and sensory bundles of fibers. The motor fibers are found anterior to the central fissure and the sensory fibers posterior to this. In the supra and subangular convolutions the types are not distinct: (4) in 1901 Flechsig demonstrated that to every sensory (centripetal) bundle there corresponds a motor one. He considers now that the projective system of the brain cortex is composed of similar conjugate pairs of bundles; (5) the order of development of the brain sulci has an important bearing upon the order of development of the myelin sheaths. The areas indicated as primary appear very early while the sulci termed as terminal appear late. This is not definitely proven, but the relation is established.

(Vol. 22, 1903, No. 6, March 16.)

1. Contraction of the Sphincter Iridis in Pupils Immobile to Light, in Accommodation and Convergence Reaction. M. ROTHMAN.
2. Anatomical Changes After Crushing the Roots of the Spinal Cord in Dogs. S. BICKELES.

3. Neurotonic Pupil Reactions. J. Piltz.

1. *Pupillary Changes.*—Rothman reports a case of a girl twelve and one-half years of age who had occasional periods of unconsciousness during childhood. At five years of age she developed periodical attacks of migraine. After one of these headaches it was noticed that the right pupil was dilated at maximum and was absolutely immobile. The left pupil was normal. Potassium iodide was given. After a period of five months there was a slight reaction of the pupil in accommodation and convergence. During the whole period of observation, three and one-half years, no reaction to light was observed. In the course of time the right pupil regained its normal size, but would remain contracted 30 to 40 seconds after accommodation and convergence. The case represents an isolated paralysis of the right sphincter iridis, the lesion probably being a small hemorrhage in the oculomotor nucleus.

2. *Crushing the Spinal Roots.*—Bickeles crushed the anterior and posterior spinal roots of dogs either with pincers or ligatures for five minutes. The dogs were killed from seven weeks to two and one-half months after operation. Examination showed in the posterior roots a large number of fine regenerated fibers, the number depending upon the length of time elapsing after the operation. Bickeles also found what he believed to be regenerated nerve fibers in the intramedullary portion of the compressed posterior roots. This, however, was not very active, probably due to the increase of neuroglia tissue and a sclerosis. Examination of the posterior roots of dogs who died two to two and one-half weeks after operation showed an absence of centrifugal fibers. In the anterior roots a band of fibers was found which were traced as coming from the posterior roots. Degeneration was always on the same side as the injury.

3. *Neurotonic Pupil Reactions.*—Piltz discusses the inportance of pupillary phenomena. In 37 cases of progressive paralysis, 11 did not respond to light on either side; 10 in whom the light reaction failed in one and was poor in the other; 7 in whom the reaction was poor in both sides; 4 in which only one pupil reacted poorly and 5 in whom the light reaction was normal. In 63 cases of tabes, in 37, both pupils failed to react to light; in 6 the pupils on one side failed, the other being slow; in 15 both pupils reacted slowly; in one, the pupil on one side reacted poorly, the other normally, an din 2 cases the light reactions were normal. Impairment and reaction manifests itself either that the pupil does not contract as much as it should or that it does not contract as rapidly as normally. It also manifests itself in a persistence of the narrowing of the pupil for some time after reaction. Four cases are recorded with the later phenomenon.

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MISCELLANY

A Note on Traumatic Syringomyelia. Alfred Gordon (Philadelphia Medical Journal, May 9, 1903).

The writer reports a case of a woman aged forty years who, ten years before, had slipped and fallen on her back. This was followed by numbness and a sensation of pins and needles, and burning and aching in both hands. The pain disappeared but the numbness persisted. The hand would not be pained by burning, though covered by blisters. Three years ago a red swelling on the palm of the hand developed, which increased. A subsequent dislocation of the arm was painless. The motor power in both lower and right upper extremities was normal. The left arm was weaker and larger than the right, each finger being larger than the corresponding finger of the right hand. The subcutaneous tissue seemed hypertrophied. No hysterical stigmata were noted. The skin was soft and thickened. The reflexes and reaction to Farradism were diminished on the left arm.